EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michelle Mizerak on October 29, 2008.

The application has been amended as follows:

IN THE CLAIMS:

Please see attached.

The following is an examiner's statement of reasons for allowance: The prior art does not teach nor render obvious each and every limitation of the claimed invention. Specifically, the prior art fails to mention progressively hashing a clause of the URL, character by character, individually, to generate a hash code associated with the clause and calculating a target value based on the hash code and dimensions of a multidimensional hash table associated with a current node in the tree data structure.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHILIP J. CHEA whose telephone number is (571)272-3951. The examiner can normally be reached on M-F 6:30-4:00 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained from

either Private PAIR or Public PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC)

at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative

or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-

1000.

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Philip J Chea
Examiner
Art Unit 2453

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/Philip J Chea/
Examiner, Art Unit 2453
11/3/08

/Salad Abdullahi/
Primary Examiner, Art Unit 2457

1.   (Currently Amended) A method of matching a Uniform Resource Locator (URL) to a resource or rule, comprising:

       progressively hashing a clause of the URL, character by character, individually, to generate a hash code associated with the clause;

       determining if a delimiting character is encountered;

       using the hash code associated with the clause to traverse a tree data structure representing clauses of URLs and corresponding resources or rules, wherein each node of the tree data structure has an associated multidimensional hash table, wherein using the hash code includes calculating a target value based on the hash code and dimensions of a multidimensional hash table associated with a current node in the tree data structure; and

       matching the URL to resources or rules based on the traversing of the tree data structure.

2.   (Cancelled)

3.   (Currently Amended) The method of ~~claim 2~~claim 1, wherein using the hash code further includes using the target value to identify an entry in the multidimensional hash table corresponding to a subtree associated with the clause.

4.   (Original) The method of claim 3, wherein traversing the tree data structure includes setting the current node of the tree data structure to be a root node of the subtree associated with the clause.

5.   (Currently Amended) The method of ~~claim 2~~claim 1, wherein entries for subtrees in the multidimensional hash table are positioned in the multidimensional hash table using the equation:

$$Th \, \gamma\{ (h\%X) , (h\%Y) , (h\%Z) \}$$

wherein Th is a target object in the multidimensional hash table, h is a hash value for a root node of a subtree, and X, Y and Z are dimensions of the multidimensional hash table.

6.   (Currently Amended) The method of ~~claim 2~~claim 1, wherein the multidimensional hash table is created by growing the multidimensional hash table such that hash collisions are avoided.

7.   (Original) The method of claim 6, wherein the multidimensional hash table is grown by a total number of dimensions for the multidimensional.

8.   (Original) The method of claim 4, further comprising:

searching the current node for target resources or ru1es; and

adding any target resources or rules to a list of matched resources or rules.

9.   (Original) The method of claim 4, further comprising:

determining if there are any child nodes of the current node corresponding to a "wildcard" node; and

adding any target resources or rules associated with the "wildcard" node to a list of matched resources or rules.

10.   (Currently Amended) The method of ~~claim 2~~claim 1, further comprising:

returning a list of matched resources or rules to a calling application.

11.   (Currently Amended) A computer program product for matching a Uniform Resource Locator (URL) to a resource or rule, the computer program product comprising:

a computer readable storage medium comprising computer readable instructions, the computer readable instructions comprising:

first instructions for progressively hashing a clause of the URL, character by character individually, to generate a hash code associated with the clause;

second instructions for determining if a delimiting character is encountered;

third instructions for using the hash code associated with the clause to traverse a tree data structure representing clauses of URLs and corresponding resources or rules, wherein each node of the tree data structure has an associated multidimensional hash table, wherein using the hash code includes calculating a target value based on the hash code and dimensions of a multidimensional hash table associated with a current node in the tree data structure; and

fourth instructions for matching the URL to resources or rules based on the traversing of the tree data structure.

12.   (Cancelled)

13.   (Currently Amended) The computer program product of ~~claim 12~~claim 11, wherein the third instructions for using the hash code further include instructions for using the target value to identify an entry in the multidimensional hash table corresponding to a subtree associated with the clause.

14.   (Original) The computer program product of claim 13, wherein the tree data structure is traversed by setting the current node of the tree data structure to be a root node of the subtree associated with the clause.

15.   (Currently Amended) The computer program product of ~~claim 12~~claim 11, wherein entries for subtrees in the multidimensional hash table are positioned in the multidimensional hash table using the equation:

$$Th \gamma \{ (h\%X) , (h\%Y) , (h\%Z) \}$$

wherein Th is a target object in the multidimensional hash table, h is a hash value for a root node of a subtree, and X, Y and Z are dimensions of the multidimensional hash table.

16.   (Currently Amended) The computer program product of ~~claim 12~~claim 11, wherein the multidimensional hash table is created by growing the multidimensional hash table such that hash collisions are avoided.

17.   (Currently Amended) The computer program product of claim 16, wherein the multidimensional hash table is grown by a total number of dimensions for the multidimensional.

18.   (Original) The computer program product of claim 14, further comprising:
        fifth instructions for searching the current node for target resources or rules; and
        sixth instructions for adding any target resources or rules to a list of matched resources or rules.

19.   (Currently Amended) The computer program product of claim 14, further comprising:
        fifth sub- instructions for determining if there are any child nodes of the current node corresponding to a "wildcard" node; and
        sixth sub-instructions for adding any target resources or rules associated with the "wildcard" node to a list of matched resources or rules.

20.   (Currently Amended) An apparatus for matching a Uniform Resource Locator (URL) to a resource or rule, comprising:
        a bus;
        a memory connected to the bus, wherein the memory comprises computer executable instructions directing the apparatus to:
        progressively hash a clause of the URL, character by character individually, to generate a hash code [[for]] associated with the clause;
        determine if a delimiting character is encountered;

use the hash code associated with the clause to traverse a tree data structure representing clauses of URLs and corresponding resources or rules, wherein each node of the tree data structure has an associated multidimensional hash table, wherein using the hash code includes calculating a target value based on the hash code and dimensions of a multidimensional hash table associated with a current node in the tree data structure; and

match the URL to resources or rules based on the traversing of the tree data structure.